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DOES INTELLIGENCE TELL IN FIRST-GRADE READING?

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Like many other cities, Cleveland has been interested in the possibility of effecting economies through better classification of children. If the differences in the amount of progress that pupils can make are very large, it would seem wise to consider seriously the advisability of segregating on the basis of ability. Groups could then be expected to advance accordingly. The present study gives some results of an effort to determine whether the reading attainments of different first-grade groups are at all closely related to their intelligence. These groups were tested for intelligence in October, 1920, with the Pressey primer scale. In some cases the pupils were grouped on the basis of this test. In a number of other cases the children had been previously grouped on the basis of teachers' estimates. In May, the children were tested with the Haggerty reading test for primary grades.

Table I shows the comparative records of intelligence and reading scores of the classes that made up the bright, medium, and slow groups.

The results reveal the greater "going power" of bright-group classes in rather pronounced fashion. The difference in the reading ability between the bright and slow groups, as indicated by Test I, represents nearly three-fourths of a year's growth. Measured by Test II, it is more than a whole year. When such differences appear at the end of one year, there seems to be little doubt as to the wisdom of a policy of segregating entering pupils on the basis of their most probable rates of progress. The results show not only that it is possible to single out quite early in the year those pupils who for the most part are likely to make rapid progress, but that both intelligence tests and teachers' estimates are valuable aids.

The outcome of the tests shows the need of establishing different standards of attainment. For the best groups to do only what is

expected of average children is to allow them to dawdle. Haggerty found that first-grade children from various cities average 4.0 on Test I and 2.0 on Test II. We find now that our bright classes more than double these scores. Their record places them on a par with ordinary children one-half year older. Slow groups, on the other hand, were not able to reach the standard for average children, and in all probability should not be expected to do so. We must not expect the impossible of the teacher in charge of such classes. The figures given will serve as a rough index of what may reasonably be expected of bright and slow sections by the end of the first year's work.

TABLE I

READING SCORES OF THREE GROUPS OF PRIMARY PUPILS CLASSIFIED ON THE BASIS OF INTELLIGENCE

GROUP	NUMBER OF CLASSES	NUMBER OF PUPILS	MEDIAN AGE OF PUPILS	PRESSEY SCORE	HAGGERTY READING SCORE	
					Test I	Test II
Bright.....	16	344	7 years, 0 months	Above 55	8.8	5.7
Medium.....	18	331	7 years, 2 months	40-55	5.7	2.8
Slow.....	17	317	7 years, 1 month	Below 40	3.1	0.9
Total.....	51	992				
Average.....					5.9	3.1
Standard:						
Grade I.....					4.0	2.0
Grade II.....					12.0	6.0

We may well ask whether the results do not show that the children as a whole did better work because of the advantages of being among others of their own caliber. On the basis of theory, such should be the case. When first-grade children vary in ability so widely that a portion of the class is to another portion as a I A grade is to a II B grade, or even II A, it is unreasonable to expect that all will receive the kind of instruction they need. It is not possible to say to what extent good records are due to homogenous grouping and to what extent they are due to superior teaching. The average of the three groups, however, is considerably above the averages found by Haggerty. The Cleveland children tested, who

had been segregated on the basis of ability, read much better than his standards. The detailed record of classes shows that thirty-one of the fifty-one classes in each test scored above the standards. To be able to say that the success was due to sectioning would have required that we measure the reading ability of an equal number of children who were of the same general capacity, under equally competent teachers, but who had not been grouped. The presumption, however, is decidedly in favor of grouping.

Some of the administrative advantages that accrue from the classification of pupils according to ability are pointed out in an unsolicited letter from the principal of one school.

TABLE II

SCORES OF THE BEST AND THE POOREST CLASSES ON THE PRESSEY INTELLIGENCE TEST AND THE HAGGERTY READING TESTS

	BRIGHT GROUP		MEDIUM GROUP		SLOW GROUP	
	Best Class	Poorest Class	Best Class	Poorest Class	Best Class	Poorest Class
Pressey intelligence test...	64.5	63.5	52.5	42.0	37.0	10.5
Haggerty reading tests:						
I.....	11.3	3.2	13.5	3.3	8.5	0.8
II.....	8.0	1.8	3.9	0.8	6.4	0.5

Our three schools of I B's were given an intelligence test last semester and classified accordingly. When they entered the I A this semester they were placed as follows:

I A (a) The strongest—relay

I A (a) A shade less strong—relay

I A (b) Those who required more time and less speed.

When a child in the I A (a) group fell behind (occasioned by illness and absence) he was quietly transferred to the I A (b) group and a child from that group, who was doing good work, was given his place in the I A (a) group.

Result: Twenty from the first I A (a) and fifteen from the second I A (a) will enter the II A grade in September. These children have done the work of I A and II B. This would not have been possible without classification.

If all classes of approximately the same intelligence had read as well as the best class in the group or even as well as the median (middle) class in the group, the results would have been much higher. Table II shows the best and the poorest class scores.

One would scarcely have supposed that such differences as those between the best and poorest classes of the bright group were

possible. The environment and nationality of the two schools to which these classes belong are much the same. The best class of the slow group (Table II) exceeded the median of the bright group in Test II (Table I). The score made by the best class of the median group in Test I surpasses the best of the bright group (Table II). This class was taught by an unusually skilful teacher who had made her class the subject of special study in connection with her work in the writer's extension course. The right kind of instruction must be provided or the results will not be commensurate with intelligence. Just as an inexperienced operator may be unable to secure a high quality of product out of a first-class machine, so a teacher lacking in knowledge of the best ways of teaching does not get the best out of pupils. A first-rate teacher, on the other hand, may accomplish unexpected results with mediocre pupils. The scores of the best classes in each group indicate that most children have a long distance to go before they even approach the limit of their possibilities. They suggest the need of (1) a careful examination of the most successful means for securing good reading and (2) a concerted effort on the part of those intrusted with the supervision of the classroom teacher's work to see that teachers are trained to use the best methods and that they lead pupils to do what should be expected of them.

Could the pupils have been better grouped and the results made to correspond more closely? The answer to this question is undoubtedly, yes. Both the results of the Pressey test and the teachers' estimates proved to be valuable aids in selecting the children to be placed in each group. The detailed results of the reading test tend to show that on the whole the children designated for the bright, medium, and slow sections belonged there, but many individuals, apparently, could have been better placed. In some instances bright pupils were placed in slow groups intentionally, but in others the pupil's ability was probably underestimated. Likewise, pupils who made a low intelligence score were sometimes placed among the bright. The teachers probably felt, and rightly so in some instances, that the child had not done himself justice. In others, his ability was overestimated, as his subsequent record showed. A single group test does not necessarily provide an accurate measure of the intelligence of *all* of the children.

Neither is a teacher's judgment infallible. Language difficulties are a decided handicap to foreign children in taking a test. Some children become confused and fail to understand what is expected of them. A single test rates accurately a large percentage of those who understand the language, but it is altogether likely that the combined results of several such tests supplemented by the teacher's judgment would provide the best indication of the child's probable future. Cases of serious divergence should be made the subject of a conference between the teacher and the principal, followed, if need be, by close observation and further examination.

Some may question the validity of the Haggerty reading test as a measure of the year's work. This test is one in silent reading. A few good readers probably failed to do well. The test does not measure oral reading. Our observations lead us to believe that those who were able to do well on this test were the ones in nearly all cases whom the teachers considered their best oral readers. A child may fail to develop as rapidly as we feel he should in view of his intelligence. He may be ever so intelligent but yet not get on well in his school work. It may be because he is unwilling to exert himself, because the teacher is not sufficiently skilful, or because she does not have the time to give him proper attention. If all of these entering elements could be removed and if we could obtain a more nearly accurate measure of the intelligence of the child and of his achievement, the correlation between intelligence and progress would probably be found to be much higher.¹

We firmly believe that the results of this experiment are sufficient to warrant the adoption of a policy of grouping entering pupils wherever possible. New requirements should be set up which vary with the intelligence levels of the children. Promotions should be made to the corresponding group of the next higher grade and should be based upon successful completion of the work outlined for a group of a given level.

¹ It will be of interest to students of statistics to note that while the brighter classes did by far the best on the reading test the actual correlation between intelligence and reading scores for one hundred pupils selected at random was only .34, P.E. .06 in the case of Test I, and .32, P.E. .06 in the case of Test II.